

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/005617 A1

(51) International Patent Classification⁷: C12N 1/16, I/19, C12Q 1/00

(21) International Application Number:
PCT/SG2004/000205

(22) International Filing Date: 9 July 2004 (09.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/485,385 9 July 2003 (09.07.2003) US

(71) Applicant (for all designated States except US): NATIONAL UNIVERSITY OF SINGAPORE [SG/SG];
10 Kent Ridge Crescent, Singapore 119260 (SG).

(72) Inventor; and

(75) Inventor/Applicant (for US only): YANG, Hongyuan [CN/SG]; 105 Clementi Road, #04-08, Singapore 129789 (SG).

(74) Agent: DREW & NAPIER LLC; 20 Raffles Place, #17-00 Ocean Towers, Singapore 048620 (SG).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GI, GR, GU, GM, HN, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TRIACYLGLYCEROL-DEFICIENT FISSION YEAST AND ITS USES

(57) Abstract: A fission yeast having non-functional *dgsl* and *plhl* genes, which is incapable of synthesizing triacylglycerols, is disclosed. The fission yeast is susceptible to lipotoxicity including lipoapoptosis, and is useful for screening of compounds that inhibit or prevent lipotoxicity or lipoapoptosis. The fission yeast strain may be transformed to express a mammalian enzyme involved in triacylglycerol synthesis, and therefore is also useful for screening of compounds that inhibit or prevent triacylglycerol synthesis, which activity is conferred by the mammalian enzyme.



WO 2005/005617 A1